

MISSOURI. Conservationist

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Conserving Our Forests, Fish, and Wildlife Together

One constant in the Department of Conservation is the never-ending debate about the appropriateness of various types of outdoor recreational pursuits.

Citizens expect their conservation agency to control, manage, restore, conserve, and regulate the bird, fish, game, and forestry resources of the state. Conservation by definition is wise management and use; regulation implies the need for controls over human behavior regarding the use or abuse of natural resources; game also implies public use through hunting and fishing; and forestry refers to an activity or practice regarding the use of forest resources.

The hope of wildlife restoration and conservation in Missouri lies in cooperation among the state, landowners, and the public, based upon adequate information and mutual understanding.

The purpose of the Regulations Committee is to balance the desires of constituents with the Department's responsibility to sustain Missouri's natural resources for citizens of today and the future. The Committee approaches regulations with this in mind — we should permit as much public use of wildlife resources as is consistent with the state of such resources, by species; we should avoid harassment of the hunter and angler wherever possible; and, to paraphrase Jefferson, regulation is best which regulates least. We feel it is best to keep seasons as long as possible, to be first restrictive on methods, next on limits, and to approach shortened seasons as a last resort. This is in line with our approach to provide opportunity for all citizens.

Today, we Missourians have many opportunities to enjoy the state's forest, fish, and wildlife resources. Much of the credit for the vibrant status of our resources belongs to those conservationists, citizens, and sportsmen who came before us. It is now our turn to engage in an open, civil, and productive dialogue to identify strategies that will ensure Missouri's resources remain plentiful so our children and grandchildren will have the opportunity to enjoy them.

The Department is currently engaged in important discussions about three of Missouri's signature species — white-tailed deer, smallmouth bass, and wild turkey.

Over the past few months, many of you have engaged in discussions regarding the future of deer management in Missouri. As you might expect, not everyone agrees on how deer

season should be configured, including seasons, limits, and expanding methods, such as crossbows during archery season. However, the Department values the opinions of citizens and after more than 20 public meetings, online comments, and phone conversations, we are close to finding the right balance between technical research and public opinion.

Department staff will soon engage citizens, anglers, outfitters, and stream enthusiasts on the important topic of daily and length limits for smallmouth bass and rock bass (goggle eye), which are considered the quintessential Ozark stream fishing experience by many Missourians. These iconic species of our clear-water streams and rivers are important to many individuals. It is our goal to ensure this resource is plentiful so citizens have opportunities for quality fishing experiences in the future.

One of the most exciting spring sounds is the reverberating gobble of the tom turkey. Missouri turkey hunting is second to none in this country. An important conversation will begin this fall to determine if Missouri could and should consider an all-day spring turkey season. The Department will continue the tradition of gathering public input when considering potential regulation changes. Again, the question before the Department is how to balance conflicting citizen desires and expectations while sustaining an important wildlife species.

A respected biologist once said, "If conservation was easy, everybody would be doing it." Conservation work is a very difficult endeavor in today's world. One of Missouri's great strengths lies in its citizens' commitment to forest, fish, and wildlife conservation. As discussions continue on the topics of white-tailed deer management, smallmouth and rock bass management, and the possibility of all-day hunting during the spring turkey season, I invite interested individuals to share their thoughts on these topics either by mail to Regulations Committee Chairman, Department of Conservation, PO Box 180, Jefferson City, MO 65102-0180 or via email at AskMDC@mdc.mo.gov.

Tom Draper, deputy director

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by Gladys J. Richter

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Cover: A compass plant blossoms in late summer. Photograph by Noppadol Paothong. Learn about the purpose of color in nature in *Outdoor Kaleidoscope*, starting on Page 10.

📷 600mm lens • f/4.0 • 1/1250 sec • ISO 200

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WHAT IS IT?

Our photographers have been busy exploring the intricacies of outdoor Missouri. See if you can guess this month's natural wonder. The answer is revealed on Page 8.



COLLARED LIZARD

While at the doctor's office, I opened the June issue of the *Missouri Conservationist* and read your article on the eastern collared lizard with great interest. I had just returned from hiking at Taum Sauk State Park and while en route to the Devil's Toll Gate, I happened upon a female eastern collared lizard carrying eggs (large midsection). I would not have been able to clearly distinguish this on my own had it not been for this excellently written article. The lizard hesitated long enough for a photo opportunity then ran away using mostly its rear legs. What a sight!

Rod Derleth, via email

LOOK BEFORE YOU PICK

Nice article on berry picking [*Searching for Berry Treasure*; June]. I believe safe berry-picking tips should include an inspection of the area for poison ivy, poison oak, poison sumac, etc. I cannot recall a wild patch not having at least one of these plants.

H. Johnson, Apopka, Florida

Editors' Note: With berry picking, as with any outdoor activity, you should always be aware of your surroundings. It also helps to be familiar with local plants and animals.

GIANT ICHNUEMON

When I saw the photo of the giant ichneuemon featured in June's "What Is It," I had to write about my first experience seeing one.

Last year I was cutting down a dead elm tree. As the chainsaw began to cut, a large piece of bark fell onto my long-sleeved shirt. I kept cutting, and something told me to look at my right sleeve. When I did, I was scared half to death to see a large, ferocious-looking insect looking back at me. With a yell and a quick shake of my arm, the insect flew off my sleeve, away from the tree, and I finished felling the tree.

When I returned to the house, I told my wife about my experience. We walked to where the tree had been to look at the stump, and when we got there, we saw four or five large, wasp-looking insects on the tree stump.

They looked aggressive, so we only got close

enough to take a photo. I followed up with the conservation office and they filled me in on the insect, but did not say that it was rare. Reading that they are a rare find in Missouri surprised me, but I have to say not as surprised as when it was on my sleeve.

Lou Dreon, via email

HOT DOG FISHING

I agree it is cheap to make a foam spider [*How to Bug a Bluegill*; May], but foam tears easily. Do we really want all these small pieces of foam in our creeks and streams? I slice a hot dog, microwave it 35–40 seconds to make it tougher. I don't use a bobber — just a loop in my line. When the fish pull that loop, I nail them. It's great fun, especially in clear water around root wads.

Ernest Neeley, via email

Fisheries' Note: Artificial baits and lures are a great convenience, and

occasionally the only legal method allowed to anglers at some trout fishing locations. However, care should be taken to keep them in good repair and discard them properly.

GRATEFUL FOR CONSERVATION

On June 5, my father, James Wallis, died suddenly while doing what he truly loved in the Missouri outdoors — planting a food plot for deer and turkey. A life-long hunter and fisherman, he was proud to be called a conservationist and loved all of what the MDC stands for and does for the Missouri outdoors. When he was a child, there was no deer season in southwest Missouri and he lived long enough that deer were a common sight in southwest Missouri. I just want to say thank you for making his time on this earth a very pleasant one.

Jimmy and Christy Wallis, via email

Reader Photo



IN ITS BLUE PERIOD

Darlene E. Revell captured this photo of a newly emerged adult annual cicada at Perry County Community Lake. Annual cicadas differ from periodic cicadas in that they emerge every year. This one had just shed its nymph stage exoskeleton, and it will turn its normal adult color as its body hardens. "On the day that I took this photo, I was walking around the lake with my husband and noticed something blue hanging from a bush, so I stopped to investigate, not expecting to find this beautiful fellow." Revell said another favorite photo location of hers is Amidon Conservation Area.



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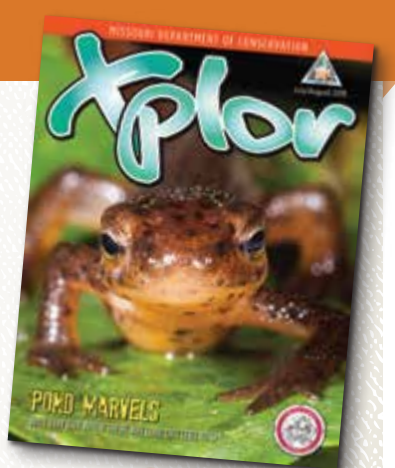
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The Importance of Public Support and the Thin Green Line



Agents continually seek out and implement new ways to further educate the public we serve on the importance of conservation. Without your continued support, the past and future successes of the conservation movement will forever be in jeopardy.

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For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code* and the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, *The Spring Turkey Hunting Regulations and Information*, the *Fall Deer and Turkey Hunting Regulations and Information*, the *Waterfowl Hunting Digest*, and the *Migratory Bird Hunting Digest*. For more information, visit mdc.mo.gov/node/130 or permit vendors.

Ask MDC

Address: PO Box 180, Jefferson City, MO 65102-0180
Phone: 573-522-4115, ext. 3848 **Email:** AskMDC@mdc.mo.gov



Tent caterpillar cocoon

We recently found dozens of these fuzzy things in our yard. They're about 1 inch long and very lightweight — they float away on the slightest breeze. We're guessing an insect came out of them, but have not been able to figure out what that might be.

This looks like a tent caterpillar cocoon. Caterpillars that built webbing in forked branches of cherry, crabapple, and other small trees in the spring have left and wandered cross-country to find places to spin cocoons in anticipation of the pupa stage. By now, many have transformed further into adult moths and emerged

from their cocoons. However, the insect in this particular cocoon likely fell prey to a predator before emerging as an adult moth. Note the hole in the side of the cocoon — a moth would have emerged at the end rather than the side. Also, note the lack of a pupal exoskeleton within the cocoon. If an adult moth had exited normally, the “shell” would have been left behind.

Do hawks come back to the same nests every year?

If you have a hawk's nest near your home or farm, you may want to keep an eye out to see if the same birds are returning year to year. Although it varies, many of Missouri's hawk species

do reoccupy their previous aeries. For example, a breeding pair of red-tailed hawks will typically visit several nests from previous years. They will repair and decorate two or more nests with greenery before choosing a single nest. Both Swainson's hawks and red-shouldered hawks often use the same nest, or nest tree, in successive breeding seasons. Cooper's hawks occasionally use the same nest, but more commonly build a new nest in the same area. Northern goshawks tend to maintain between one to eight nests within an area. While they may use the same nest more than once, they typically alternate between more than two nests. Scientists speculate it might be a way to avoid disease and parasites. Sharp-shinned hawks, on the other hand, rarely re-use their nests.

I saw a picture of a pink katydid on Facebook. Is there such a thing?

Yes. Department Resource Scientist Elizabeth Middleton recently photographed this pink katydid at the Diamond Grove Prairie Natural Area in southwest Missouri, one of the largest tallgrass prairies remaining in the state. This radiant creature is a rare version of a prairie insect that is more commonly green. Scientists recently have learned the pink color is a genetically dominant trait. However, the green, leaf-like body shape provides such good camouflage from predators that many more green katydids persist in the wild. To find a public prairie near you, visit mdc.mo.gov/node/2453.



Pink katydid



Department Changes Deer Hunting Regulations to Help Slow CWD

The Missouri Department of Conservation is asking deer hunters in 19 central and northeast Missouri counties to help limit the spread of chronic wasting disease (CWD) and present deer for sampling this fall and winter. In response to the detection of the deadly deer disease in Adair and Cole counties, the Missouri Conservation Commission recently approved changes to regulations for the upcoming 2015–2016 deer hunting season that focus on slowing the spread of the disease.

CWD causes degeneration of brain tissue in deer and other members of the deer family, and it slowly leads to death. The disease has no vaccine or cure and is fatal.

"A primary way CWD is spread is through deer-to-deer contact," explained State Wildlife Veterinarian Kelly Straka. "Deer gathering and interacting in larger numbers can increase the spread in an area. Young bucks could also spread the disease to new areas as they search for territories and mates."

The regulation changes remove the antler-point restriction so hunters have the opportunity to harvest young bucks in 13 additional counties, including five northeast counties: Knox, Scotland, Schuyler, Shelby, and Putnam, and eight central Missouri counties: Boone, Callaway, Cole, Cooper, Miller, Moniteau, Morgan, and Osage.

The changes also would increase the availability of firearms antlerless permits from one to two to prevent undesirable population increases in those counties. These regulation changes would add to similar measures the Department enacted in 2012 for six counties in northeast Missouri after CWD was discovered in Macon County. Counties affected by those regulation changes were Adair, Chariton, Linn, Macon, Randolph, and Sullivan.

"The challenge with CWD is that there is no way to fully eradicate the disease from an area once it has become established," Dr. Straka said. "While we do not expect short-term population impacts from the disease, CWD is

likely to have serious long-term consequences to the health and size of Missouri's deer herd. Therefore, we will continue to focus on slowing the spread of the disease among deer in the affected areas, and try to limit the spread to new areas of the state."

Details on the regulations and sampling station locations will be outlined in the *2015 Fall Deer and Turkey Hunting Regulations and Information* booklet.

Mentored Hunts Offered to First-Time Dove Hunters

For the second year, the Missouri Department of Conservation is partnering with the National Wild Turkey Federation (NWTF), Quail Forever (QF), Pheasants Forever, Friends of the National Rifle Association, U.S. Forest Service, and landowners to provide mentored hunts for first-time dove hunters.

These events will be held on public and private lands near Canton, Cape Girardeau, Chillicothe, Lynchburg, Macon, Mokane, Paris, Rueter, Washington, and West Plains. NWTF initiated this effort as part of a strategic initiative titled *Save the Habitat. Save the Hunt*. Over the next decade, the nonprofit organization plans to conserve and enhance 4 million acres, create 1.5 million new hunters, and provide access to half a million additional acres.

The mentored hunts will be offered Sept. 1, opening day of dove season, to first-time hunters 11 or older. Priority will be given to first-time hunters, but other applicants will be considered to fill available spots. To maximize safety and provide a quality experience, each field will be limited to 16–20 participants per hunt.

Depending on applications received and landowner participation, additional mentored hunt dates will be offered. If spaces remain available on any field for any scheduled hunting days, first-time hunters may have the opportunity to attend multiple mentored hunts.

No equipment is necessary, but a parent or guardian must accompany participants age 11 to 15. For those who lack prior hunting experience, attending a hunter education course or dove hunting clinic is strongly recommended. Browse hunter education requirements and opportunities at mdc.mo.gov/huntereducation,



Mentored dove hunts will be offered Sept. 1 to first-time hunters 11 or older.

and find dove hunting clinics in your region at mdc.mo.gov/events.

For more information or to apply for a mentored hunt, call John Burk of NWTF at 573-676-5994, or email him at jburk@nwtf.net. Or apply online at mdc.mo.gov/node/31059.

Federal Duck Stamp Revenues Help Conserve Wetlands

Federal Migratory Bird Hunting and Conservation Stamps, more commonly known as "duck stamps," have proven to be a vital tool for wetland conservation in the United States.



CONSERVATION COMMISSION ACTIONS

The July Commission meeting featured presentations and discussions regarding smallmouth bass and rock bass (goggle-eye) management, an elk restoration update, forest certification, and the Missouri managed woods program. A summary of actions taken during the July 9–10 meeting for the benefit and protection of forests, fish, and wildlife, and the citizens who enjoy them includes:

- » **Approved** authorization to advertise and sell 751,485 board feet of timber located on 532 acres of Compartment 6, Rocky Creek Conservation Area (CA) in Shannon County.
- » **Approved** the purchase of 120 acres in Hickory County as an addition to Mule Shoe CA.
- » **Approved** proposed responses to certain resolutions adopted by the Conservation Federation of Missouri at its March 2015 annual meeting.
- » **Elected** Commission officers as follows: Marilyn J. Bradford, Chair; David W. Murphy, Vice Chair; James T. Blair, IV, Secretary; and Don C. Bedell, Member.

The next Conservation Commission meeting is Aug. 18 and 19. For more information, visit mdc.mo.gov/node/3430, or call your regional Conservation office (phone numbers on Page 3).

(continued from Page 7)

Starting in January, the price of the stamps, which are required of all waterfowl hunters age 16 and older, rose from \$15 to \$25. Many hunting, conservation, and wildlife-watching groups have been lobbying for a price increase for more than a decade. Ninety-eight cents of every dollar generated by the sale of the pictorial stamps goes directly to purchase or lease wetland habitat for protection in the National Wildlife Refuge System.

Since 1934, sales of the stamps have generated more than \$800 million, money used to acquire more than 6 million acres of wetland habitat. Waterfowl aren't the only wildlife to benefit — numerous other bird, mammal, fish, reptile, and amphibian species have prospered. An estimated one-third of the nation's endangered and threatened species use refuges established with duck stamp funds. And, by providing hunters with places to enjoy their sport and outdoor enthusiasts with room to hike, bird watch, and explore,

humans have benefitted, too.

Stamps are available at some U.S. Post Offices, Department of Conservation regional offices, or online at mdc.mo.gov/node/30306. Online orders are charged an additional \$3.50 for shipping and handling.

Wingshooting Workshops Help Improve Hunter Proficiency

The Missouri Department of Conservation is hosting Effective Wingshooting for the Hunter workshops to teach participants to be more proficient hunters of dove, quail, pheasants, migratory birds, waterfowl, and turkeys.

Shotgun hunters 14 years and older will learn about the performance differences of steel- and lead-shot shells. They'll also master how to accurately estimate distances and improve their wingshooting skill. Participants should bring their hunting shotgun and choke tubes if applicable, non-toxic shotgun ammunition they wish to pattern, eye/ear protection, and a folding chair. Clay targets and 12 and 20 gauge non-toxic practice ammunition will be provided.

Participants younger than 16 must be accompanied by an adult.

Workshops are scheduled:

- Aug. 6 and 8 at Wildcat Glades & Audubon Center
- Aug. 10–11 at Charles A. Green Conservation Area
- Aug. 22 at Andy Dalton Shooting Range
- Aug. 22 at Jay Henges Shooting Range
- Aug. 25–26 at Northwest Regional Office
- Sept. 12 at Ted Shanks Conservation Area
- Sept. 19 at Jay Henges Shooting Range
- Sept. 19 at UCM Shooting Range
- Sept. 19 at White Ranch Conservation Area
- Oct. 2–3 at Lake City Range
- Oct. 3 at Show-Me Lake Shooting Range
- Oct. 17 at Duck Creek Conservation Area

For more information about these events and how to register, visit mdc.mo.gov/node/3710.

Avian Flu: Take Simple Safety Steps When Handling Wild Birds

Since December 2014, the highly pathogenic avian influenza (HPAI) H5 virus has affected more than 48 million birds in the United States, with most cases found in domestic poultry. This dis-



WHAT IS IT?

Osage Copperhead | *Agkistrodon contortrix phaeogaster*

Copperheads live on rocky hillsides and along forest edges in the northern two-thirds of the state. They also spend time among trees and brush along prairie streams and are often found near abandoned farm buildings. They rely on their camouflage pattern when resting in dead leaves and will usually remain motionless when encountered. They're not aggressive, and they seldom strike unless provoked. Copperheads eat mice, lizards, frogs, small birds, insects, and sometimes small snakes. They are normally active from April through November. Courtship and mating occur in the spring, and young are born August through early October. Females produce live young every other year, with up to 14 in a litter. They bask on warm sunny days, especially in the morning. In the hottest months, they become nocturnal. In autumn, they gather together to overwinter at south-facing rocky ledges. —photograph by Noppadol Paothong

ease has affected both domestic poultry operations and wild birds in Missouri.

The Missouri Department of Conservation is working with federal and other state agencies to monitor wild birds, such as waterfowl, raptors, and wild turkeys, for HPAI viruses. These efforts will include sampling hunter-harvested waterfowl during the upcoming hunting seasons.

While the HPAI H5 virus has not been associated with human illnesses, hunters and others who handle live or dead birds are advised to use the following best practices:

- Work in a well-ventilated area or upwind of bird carcasses to minimize exposure to airborne particles from dust, feathers, or dander.
- Wear rubber or latex gloves when handling bird carcasses and disinfect gloves with soap and water, or dispose of them after use.
- Wash hands with soap and water or alcohol-based disinfectant, and disinfect tools and equipment with soap and water after handling bird carcasses.
- Avoid close contact with sick birds. Report sick or dead waterfowl to your local conservation agent or Department office.
- For more information, contact the Department's Wildlife Health Program at 573-815-7900.

To learn more about avian influenza, visit the U.S. Department of Agriculture, Animal and Plant Health Inspection Service at aphis.usda.gov; the USGS National Wildlife Health Center at nwhc.usgs.gov; or the Centers for Disease Control and Prevention at cdc.gov/flu/avianflu.

Discover Nature at the Missouri State Fair in Sedalia Aug. 13–23

Discover nature with the Conservation Department at the Missouri State Fair in Sedalia Aug. 13–23. Visit the Conservation Building from 9 a.m. to 9 p.m. daily to see aquaria full of live fish and other aquatic wildlife and displays of live native animals such as snakes and turtles. Ask conservation questions of Conservation Department staff, get educational materials, and have fun.

Pop into the Department's air-conditioned Conservation Kids' Discovery Room between 10 a.m. and 6 p.m. to have hands-on fun exploring nature through crafts and other activities.

Enjoy conservation-related demonstrations at the Department's outdoor pavilion, including:

- **Raptors of Missouri**
Aug. 13 and Aug. 22 at 11 a.m., 1:30 p.m., and 4 p.m.
- **Fish Cooking and Cleaning**
Aug. 14–15 at 11 a.m. and 1:30 p.m.
- **Be Bear Aware**
Aug. 16 and Aug. 23 at 11 a.m. and 1:30 p.m.
- **Rainfall Simulator: Managing Soil**
Aug. 17–18 at 11 a.m. and 1:30 p.m.

- **Fly Tying**
Aug. 19 at 11 a.m. and 1:30 p.m.
 - **Alien Invaders in Missouri!**
Aug. 20 with displays and activities from 10 a.m.–3 p.m.
 - **Forest Products and a Circular Sawmill in Action**
Aug. 21 at 11 a.m. and 1:30 p.m.
- For more information on other Department events happening this summer near you, visit mdc.mo.gov/events.

DID YOU KNOW?

We work with you and for you to sustain healthy forests, fish, and wildlife.

MDC Partners With Rural Fire Departments

» **The Missouri Department of Conservation** helps rural fire departments get the funding and equipment they need to fight fire, especially wildfires.

» **Every year, Missouri fire departments** serving communities of fewer than 10,000 can apply for a 50/50 grant funding opportunity to help buy wildland fire-fighting equipment for uses such as personal protection, communications, and suppression.

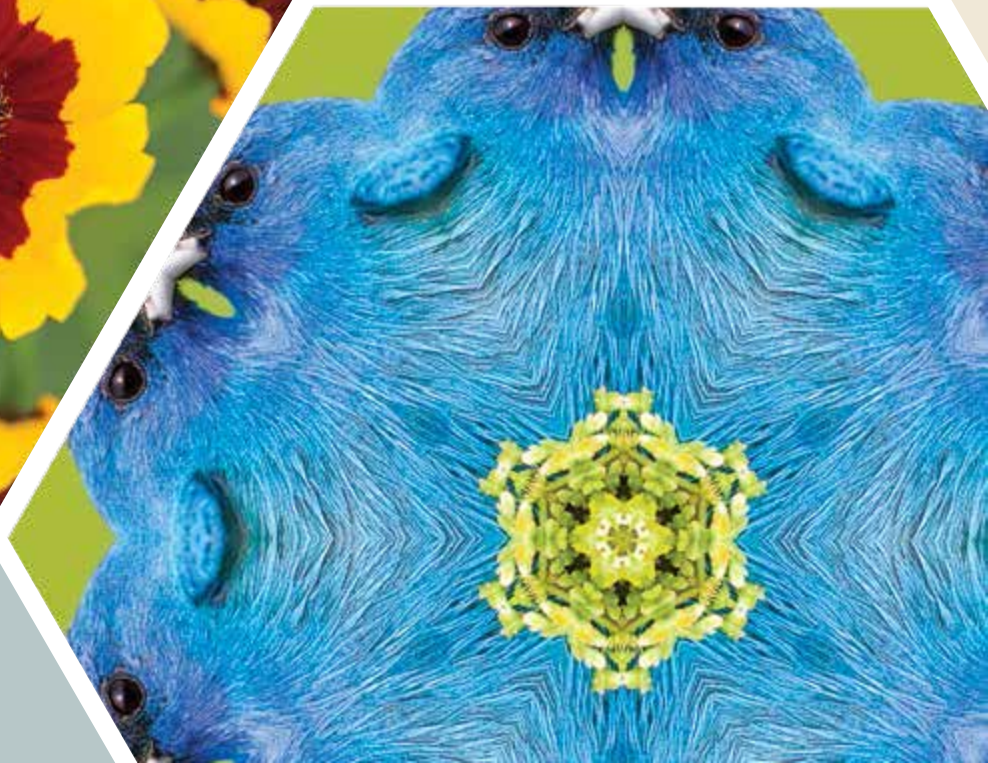
» **Funded applicants receive reimbursement** for one-half of the equipment's purchase price, with a maximum reimbursement of \$3,000. If the applicant's community has completed and approved a Community Wildfire Preparedness Plan (CWPP), they are eligible for an additional \$1,000 of grant funding. Available funding, which is provided by the U.S. Forest Service and the Department, exceeds \$300,000 annually.

» **Fire departments across the state** are eligible to receive excess federal property, including various types of vehicles and firefighting or emergency-response equipment.

» **The excess firefighting and emergency-response property** is available through an agreement with the U.S. Forest Service and the Department and is acquired through two federally sponsored programs. The first program, known as Federal Excess Personal Property (FEPP), allows local fire departments to borrow the property, but requires them to return it to the Department when the need for it has passed, or the property is no longer functional.

» **The second program, Fire Fighter Property** (FFP), allows the Department to acquire federal excess property and transfer ownership of this property to local Missouri fire departments.

» **For questions about the 50/50 grant funding opportunity, FEPP, and FFP**, contact the Department's Fire Program Supervisor at 573-522-4115, ext. 3113, or email Ben.Webster@mdc.mo.gov.





Take time to notice nature's colors — the warm hues of autumn leaves, flashy wardrobes of spring songbirds, and eye-catching rays of summer wildflowers — which tell us something and add to the beauty Missouri has to offer year-round

BY GLADYS J. RICHTER

Outdoor Kaleidoscope



As fall arrives in Missouri, the landscape transforms.

Slowly, the bright green foliage of summer morphs into shades of yellow, red, and orange that dot our woodlands. Many birds trade in their brilliant feathers for more subdued seasonal attire. Winter raptors and their drab plumage are not far behind.

During spring, you may spend an entire morning fishing the river and never notice the young fawn in the nearby bottomland forest. Its spots blend perfectly with the sun-dappled shade. Come November that same fawn will no longer be dressed in spots, but instead will be sporting a new coat of autumn brown.

This is nature's kaleidoscope — always changing with the calendar.

Outdoor excursions with young children provide endless discoveries. You can even make a game out of locating colorful hidden wonders. It's hard to beat the excitement

of a kindergartener who has just come across a walking stick insect that looks and acts like a brown twig or a preschooler watching carefully for a camouflaged tree frog to make its next move.

Children can ask some tough questions about nature. Why do some birds have bright feathers, while others are so brown? Where did that green grasshopper escape to in the yard? Why does that lizard have a blue belly?

Colors found in nature can have many purposes. The top three are attraction, warning, and camouflage.

Attraction

Most of Missouri's native wildflowers need animals for pollination. Bees, butterflies, and birds are visual creatures that are often attracted to colors. For example, some blossoms capture the attention of hummingbirds more than others.

Flowers, such as wild columbine, trumpet creeper, and cardinal flower, are well adapted both in color and structure to gain the attention they need for pollination. All three of these plants have flame-orange or red, tubular blossoms that act as magnets for the ruby-throated hummingbirds found in Missouri.



Monarch butterfly



Prairie blazing star



Autumn leaves



Plains coreopsis



Indigo bunting



Gray tree frog

Kaleidoscope patterns on the previous pages were created from these photographs.



Above: The bright red blossoms of a cardinal flower attract a ruby-throated hummingbird to feed. **Left:** Male ruby-throated hummingbirds have an iridescent shimmering throat patch called a "gorget."

The hummingbirds themselves also display special coloration. Each male hummingbird is adorned with an iridescent shimmering throat patch called a "gorget." Female hummingbirds are dull in comparison and do not have these colorful throat patches. When a new hummingbird arrives on the scene at a backyard feeder or flower patch, it is evident to all the other hummingbirds if it's a male rival or a visiting female.

Males of many bird species use colorful plumage to attract mates. Bright-yellow American goldfinches, brilliant-blue indigo buntings, and cherry-red northern cardinals are some of the more familiar species. As a general rule, most male songbirds are more noticeable in the spring. This is especially true of migrating Neotropical birds, such as warblers.

In autumn, sometimes it's hard to tell male birds from their female mates. Those same male goldfinches are dressed more drably when they investigate the thistle seed at your feeder in the fall.

Warning

In our everyday lives, we encounter many warning signs, from red traffic lights and orange construction cones to yel-

low caution ribbon and bright neon-colored flags. All of these are used to get our attention in order to keep us safe. Similarly, in nature, the colors yellow, orange, and red often serve to warn creatures. This type of warning by toxic animals is known as "aposematic coloration."

In southern Missouri, large, black-bodied centipedes display red heads and yellow legs to warn others of their toxins, which they can deliver via fangs and bodily secretions. Found in localized woodland populations, this species is a formidable foe for its prey, which may include amphibians, insects, and even tiny mammals.

Some creatures just look like dangerous or toxic animals to avoid being eaten. The viceroy butterfly is a good imitator of the monarch butterfly. Birds that have attempted to eat a monarch, and later became ill, do not do so a second time. When those birds encounter a viceroy, which looks almost identical to the monarch, they avoid it. They are not aware the viceroy is a separate species without toxin. There are not as many viceroys as there are monarchs, which





American bittern

Many creatures use camouflage to hide from predators. Above: An American bittern does a disappearing act among vegetation. Right: A giant swallowtail caterpillar resembles bird droppings, which keeps many predators away.

means a greater chance of birds learning this lesson before encountering a viceroy.

Another distinct coloration that signals warning is the well-known black-and-white pattern of skunks. All creatures recognize the skunk as an animal to be left alone. In Missouri, there are two species — the familiar striped skunk and the rarely seen eastern spotted skunk.

Camouflage

While many creatures use colors to gain attention or signal caution, others prefer to go unnoticed. These animals use camouflage, a form of cryptic coloration, to prevent predators from discovering them. Predators also rely on camouflage to hide and sneak up on their prey. There are different forms of camouflage in nature.

Female birds of all sorts, from cardinals and indigo buntings to wild turkeys, sit quietly upon their earth-colored nests. Their brown plumage allows them to blend in with their nest and surroundings, keeping them hidden. Young are usually dressed in shades of brown as well to help them disappear into nearby vegetation once they leave the nest.

With their unique camouflage and behavior, American bitterns do a disappearing act among cattails and other vegetation found along the water's edge. When a threat approaches, the bittern freezes, beak up, revealing a long, thin, brown-and-tan striped neck. Suddenly, it looks just like the surrounding reeds and grasses. This color pattern not only protects them from predator detection, but also helps them to secretly approach their favorite prey — fish.

This same type of disguise works well with other animals that use leaf litter for cover. Many reptiles, amphibians, and insects blend into their surroundings. Rust-colored copperhead snakes and light-brown fence lizards are two such examples. Green katydids and grasshoppers also quickly escape into a sea of grass when approached by predators or curious children.

One of the best camouflage artists is the gray tree frog.

With its ability to blend in with the bark it is resting upon, this Houdini of the amphibian world disappears into the background. It gives off its distinctive trill, but from where? During the night hours, the frogs wait for insects to come along. What appears to be just another piece of tree bark quickly flicks out a sticky, pink tongue to devour yet another meal. The insect never knew what hit it!

Giant swallowtail caterpillar





Meadow katydid

Mottled sculpin



Insects such as walking sticks and caterpillars are great fun for kids. Giant swallowtail caterpillars look, well, like bird droppings, and who wants to mess with that? It foils many predators that would like to eat a nice, juicy caterpillar. Other caterpillars disguise themselves with large spots that look like eyes. The larva of the tiger swallowtail butterfly looks ferocious with its green skin and fake eyes.

Missouri creeks hold many disguised and camouflaged animals, including green frogs that hide among aquatic vegetation, and fish, such as mottled and banded sculpins, that are patterned to look like stones.

Fish often use a form of camouflage known as counter shading to confuse predators and escape capture. Catfish are good examples. In counter shading, the top of the fish is colored similar to that of the stream bed below. To creatures peering into the water, the fish blends in with a dark background. For underwater predators looking up from the bottom, the fish's

underside is lighter in color to disappear into the bright, clear sky above.

Occasionally, colors show up in nature and attract the wrong type of attention. Two examples are that of albinism and melanism. Albinism is a lack of pigment, which causes animals to be white or nearly white. Melanism is the opposite. There is too much pigment present, and the animal is very dark. A white deer in the middle of a brown autumn forest is an easy target for predators. Likewise, a dark-colored animal in a group of its otherwise light-colored kin is likely to stand out. Seeing these animals is a rare treat.

More information about color in nature can be found in our online field guide at mdc.mo.gov/node/73 or at any of Missouri's conservation nature centers. Pick up publications on topics such as Missouri's trees, amphibians, reptiles, fish, and more. You may wish to take part in a naturalist-led program or stroll along one of the many hiking trails to discover more of nature's kaleidoscope. For a list of events in your area, visit mdc.mo.gov/events. ▲



Top: A red-eared slider with melanism, which has caused the usually bright red ear patch to be dark. Bottom: A red-eared slider with albinism, causing the animal to look nearly white.

Gladys J. Richter is an interpretive writer from Richland, Missouri. She and her family enjoy many outdoor activities, including fishing, kayaking, and seasonal nature walks.

Just Add Water

BY BRETT DUFUR | PHOTOGRAPHS BY DAVID STONNER

A FLOAT TRIP IS THE
PERFECT RECIPE FOR
FAMILY FUN, SUMMERTIME
OR ANYTIME



Several families
float the
Meramec River.





y family's foolproof recipe for summertime fun is kids plus canoes. Just add water and stir gently with a paddle. Then the magic happens — my kids can get wild, tromp through the mud, get nose-to-nose with tadpoles, and look for cool rocks.

Float trips are guaranteed fun and take you straight into the heart of Missouri's most scenic country. No matter where you live in the Show-Me State, you're probably close to a floatable, boatable waterway. That's because Missouri is blessed with thousands of miles of streams and rivers.

Even if you don't own a canoe, getting on the water can be easy. More than 130 canoe outfitters can take the guesswork out of planning a safe, memorable trip. See *Take Me to the River* on this page for resources that will help you pick the best streams for your family's first float trip and find outfitters on the waters you want to float.

TAKE ME TO THE RIVER

Visit the Conservation Department's float page for links to area boat ramps, canoe outfitters, paddling workshops, and the *Online Conservation Atlas*, featuring hundreds of accesses:

mdc.mo.gov/node/17947.

Two useful books about Missouri's rivers are *A Paddler's Guide to Missouri* (\$8 plus shipping) and *Voices of Missouri's Rivers* (\$19.50 plus shipping). Both are available from Conservation Department nature centers, online at **mdcnatureshop.com**, or by calling toll free 877-521-8632.

Watch a short Department video about prepping for a float trip at **mdc.mo.gov/node/31057**.



Stretch the Summer Float Season

Summer floating fun doesn't have to end when the kids go back to school. August and September offer plenty of beautiful, hot days to stretch the float season and enjoy one last trip. There are many advantages to floating in August and September. The large summer crowds are gone, river flows are nice and low, and good campsites are plentiful. Many of Missouri's rivers are spring fed and continue to offer prime floating well into fall and beyond. October floats bring some of the greatest rewards of the paddling season with cool nights and vivid fall colors.



Share your Missouri float photographs on Instagram using the hashtag #MDCdiscovernature.

There's a Float for Every Season

Truth is, you can float in every season, spring through winter. During the spring, I paddle and fly-fish my way down the upper Jacks Fork before the forests close their leafy veils. The crystal clear water and schools of fish darting below my canoe are mesmerizing. In summer, my kids and I paddle the Meramec's high-water crests and also enjoy lazy summer days on the Elk. Each October, we soak in the vibrant fall colors while floating down the Missouri as eagles glide silently above. What could be better than spotting eagles by canoe, stoking a nice

campfire under star-filled skies, and finally nodding off inside a toasty sleeping bag on a sandbar?

On the Niangua in winter, we enjoy the deep silence as snowflakes envelop the forest around us. The crisp winter air and monochromatic snow-covered scenery become treasured family memories.

Don't be afraid to try a winter float trip. The right gear and good planning can help your family have an enjoyable float any time of the year. Missouri's outfitters can help make your family's first off-season float a good one.

STASH YOUR TRASH

The Missouri Stream Team program works with participating outfitters to provide free *Stash Your Trash* red mesh bags. These handy bags help you keep Missouri streams clean and healthy while you're having fun on the water. Remember — glass containers and bottles and all foam-type coolers are prohibited on or near any waterway by Missouri law.

Missouri's streams are beautiful and full of life. They're also a big part of Missouri's outdoor recreation economy. Please support the businesses that participate in the Stream Team's *Stash Your Trash* program. Visit mdc.mo.gov/node/17947.



Naomi finds a toad on a gravel sandbar.

Find a Favorite Backyard Float

When recollecting great times with friends and family, what flows through many of these memories are rivers. While some of my most adventurous canoe trips have been deep in the wilds of the Ozarks, other memorable trips were paddling the old creek slough only two blocks from my house in Rocheport.

After all, adventure is an attitude, not a destination. My kids and I explored the old Moniteau Creek slough while it was high with spring rains. I'll never forget laughing as Naomi and Everett cracked open the snacks while the canoe was still halfway on shore, before we had even shoved off. (Note to self: snacks = happy kids, happy float.)

The creek that day was a spellbinding world of little water creatures clinging to ancient floating stumps. We were amazed at what we found. We saw whirligig beetles, water striders, dragonflies, small tree frogs, and countless other tiny forms of life. Paddling slowly in our canoe, we were immersed in a working wetland, one of the most biologically rich habitats in the world. That trip reminded me that on a float, it really doesn't matter how many miles we make — rather, it's what we make in the miles that counts.





Paddling a river with family is as close to discovering the fountain of youth as we may find.

Paddle Missouri's Greatest Rivers

Other float trips are destination floats. There is no shortage of paddling destinations in Missouri, and planning a daytrip or overnight float has never been easier. The Conservation Department has built a network of hundreds of boat ramps and accesses on the majority of Missouri's paddle-friendly rivers and streams. See the *Take Me to the River* sidebar for details about how to find river accesses near you and around the state.

This summer, my kids and I are hoping to paddle seven of Missouri's rivers to see what the Show-Me State has to offer. In addition to trips on the Jacks Fork, Missouri, Meramec, and Elk, we hope to float the North Fork of the White, the Big Piney, and the Eleven Point. Your family might try some of these rivers, too!

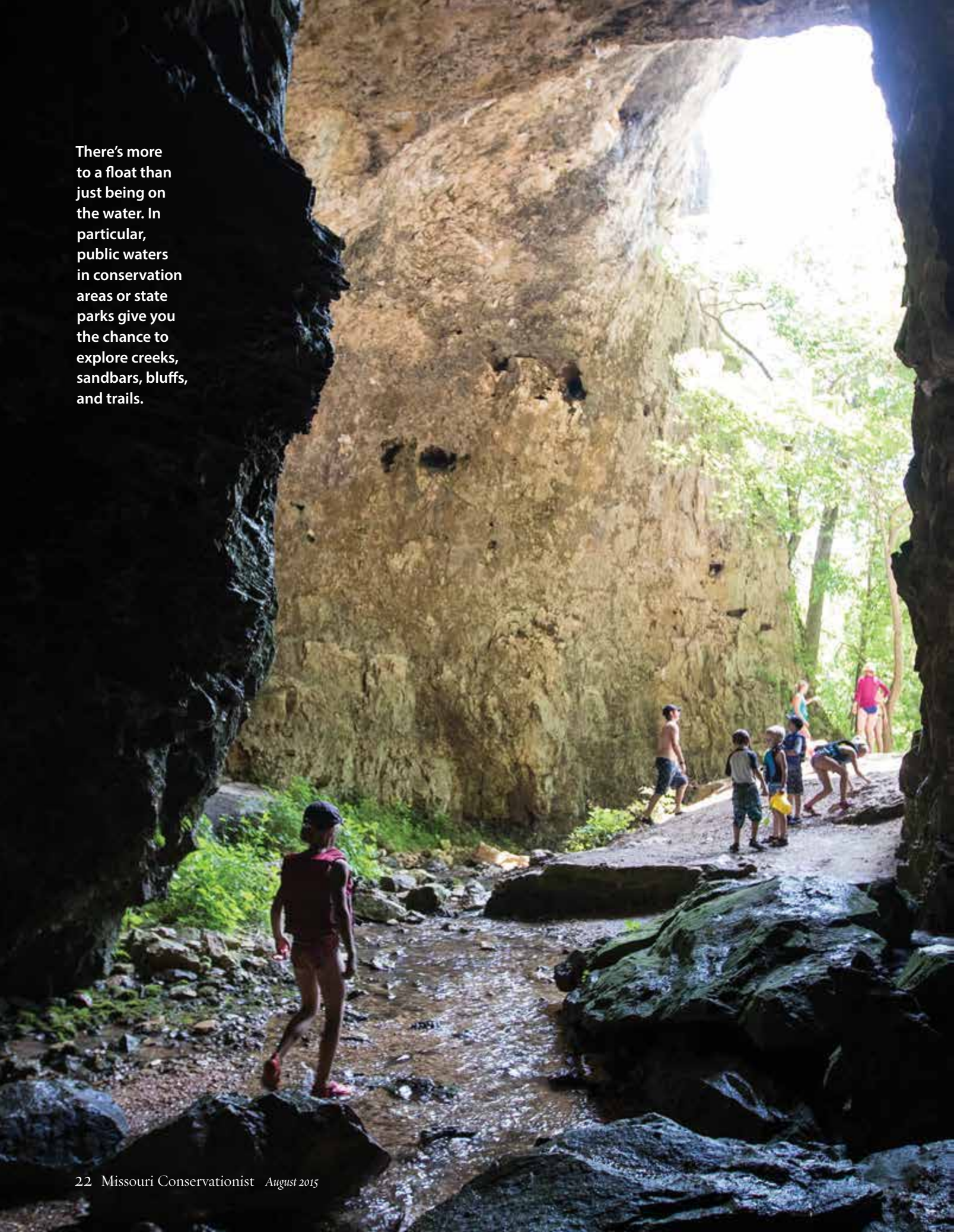
REEL IN MORE FUN WITH YOUR FAMILY

The *Discover Nature — Fishing* program helps kids and families gain fishing skills. Call your regional Department of Conservation office (find the phone numbers on Page 3) to learn when classes are available in your area, or visit mdc.mo.gov/node/27175 to browse the events calendar.

Buy fishing permits online for easy and immediate printing and use at mdc.mo.gov/node/5006. You can also buy permits from vendors and by phone by calling toll free 1-800-392-4115.

Learn more about smallmouth bass fishing at mdc.mo.gov/node/5853.

There's more to a float than just being on the water. In particular, public waters in conservation areas or state parks give you the chance to explore creeks, sandbars, bluffs, and trails.



BUYING FISHING PERMITS, RODS, AND REELS PUTS FISH IN THE WATER

If you've ever purchased fishing permits, fishing lures, or rods and reels, you're part of one of the most successful efforts to conserve sport fish in America.

The Conservation Department receives federal excise taxes paid by anglers in the state on fishing tackle, motorboat fuel, and electric outboard motors through the U.S. Fish and Wildlife Service's Sport Fish Restoration Program. These funds are returned to the Conservation Department to conserve, manage, and enhance fisheries, develop boat accesses, and to help fund angler and aquatic-resource education. Since 1952, Missouri has received more than \$166 million from the Sport Fish Restoration Program.

For more than 75 years, Missourians also have helped improve Missouri's fishing by buying fishing permits, which fund fisheries conservation work. Every Missourian is a partner in conservation, thanks to the conservation sales tax, which allocates 1 penny for conservation efforts from every \$8 of taxable items purchased. This dedicated sales tax provides consistent funding for the long-term efforts required for the conservation of forests, fish, and wildlife.



Wherever You Are, Start There

At the end of the day, regardless of your paddling destination, it's the going that matters the most. Paddling a river — any river — with family is as close to discovering the fountain of youth as we may find.

Something transformative happens when I touch the wooden handle of my canoe paddle. Suddenly, so many layers of adult life fall away. There's a certain joy and meditation that only occurs when you're drifting silently down an Ozark stream. For a moment, you're a part of nature. There's no windshield or pavement separating you. The flow carries you along, and you drift impossibly close to great blue herons, wood ducks, red-bellied woodpeckers, and belted kingfishers. No sounds get between you and the jovial trills of the northern parula. And the next bite on the fishing line is always tantalizingly close.

The more we float Missouri's rivers, the richer my family's life becomes. And that is my wish for you. Rivers are an important part of our culture, not just part of our view. They enrich our lives. They fill our memories. Missouri's rivers aren't something we float on top of, detached. On a float, we become part of the flow. And that flow becomes part of our life. ▲

***Brett Dufur** is a Conservation Department editor. He lives in Rocheport and enjoys paddling the Missouri River. Read his article about the upper Jacks Fork, one of Missouri's wildest and most scenic rivers, at mdc.mo.gov/node/21483. He also wrote about paddling in a 340-mile, cross-state Missouri River race, online at mdc.mo.gov/node/22749.*



EARLY

BY JIM LOW

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Sometimes the
easiest ducks to fool
are the hardest to hit

BIRDS



Dawn lightens the eastern horizon, and I scan the sky, hoping to glimpse dark forms skimming cattail tops. A mosquito catches my eye, triggering a brief adrenaline rush. The air is warm this early September morning, but excitement raises goose bumps on my bare arms.

Minutes later, as the sun peeks over the horizon, my golden retriever Willa tenses. Then her glance flicks southward. Before I can turn my head, I hear them, like onrushing wind.

Teal!

The brief interval between hearing wings and seeing the hurtling forms leaves no time to think, let alone raise a shotgun. Twenty slender birds whoosh past, a boiling cloud of flesh and feathers barely 20 feet off the water. I'm not disappointed by their departure because in the split second of their passage, I saw several heads cock downward to examine our decoys. They'll be back.

The flock circles downwind, touring a half-mile of marsh in 30 seconds, then doubling back. Willa and I track the tight swarm as it swoops and dodges, drawn like iron shards to the magnet of our decoys. Just when it seems they will pass us by a second time, they knife down like feathered darts. Their wings flare and catch the air so violently you'd think they would shatter. Instead, the little ducks flutter the last few feet toward the water like bits of milkweed fluff.

I am ready. As the first bird's feet touch the water, a drake near the rear of the flock crumples and falls at the sound of my shot. Hummingbird quick, the remaining birds vault upward, catching a slight breeze to regain speed and careen away. My second shot is merely a salute to their stunning aerobatic skill.

Willa, eyes locked on the fallen duck, waits at my side until I whisper, "Fetch," then plunges into the algae-flecked water and heads straight for the still form at the center of receding ripples. She delivers a picture-pretty blue-winged teal to my hand. We both grin with delight. Early teal season is here again.

A surprising number of avid hunters shun the early teal season because they don't feel right hunting ducks in shirtsleeve weather. Some shy away from it because of the possibility of shooting other ducks that are not legal game during the early hunt. I'm not complaining about lack of competition, but it's hard to keep something this good to myself. So here is a brief guide to one of the simplest, most exciting kinds of hunting imaginable.

When

Blue-winged teal migrate earlier than most ducks and have mostly gone south of Missouri by the time the regular duck season opens. That's why federal regulations allow Missouri to hold an early teal hunt. The season customarily begins the first Saturday in September. This early season is only for blue-wings, the slightly

Beware of Wood Ducks!

Wood ducks nest throughout Missouri in the summer, so they already are here when the early teal season opens. This, along with the fast pace of teal hunting and the small size of juvenile wood ducks, creates significant potential for hunters to mistakenly — and illegally — harvest wood ducks.

To reduce the chances of such illegal harvests in dim light, shooting hours begin 30 minutes later during the early teal season than during the regular duck season. But teal hunters still occasionally face a tough job trying to identify their targets positively before shouldering a gun. Newcomers are wise to make their first few outings with more experienced hunters. Otherwise, you should spend more time watching birds than trying to shoot them until you become familiar with teal and wood ducks' distinctive appearance, flight patterns, and calls.



Juvenile wood ducks



Green-winged teal



Blue-winged teal



The period of maximum teal movement usually occurs between dawn and 8 a.m., so it's important to be in place at sunrise, which is the start of legal shooting time.

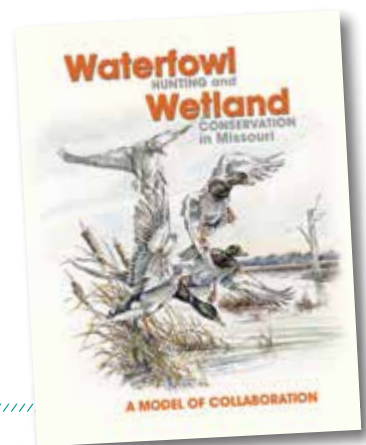
smaller green-winged teal, and cinnamon teal. This last species isn't common in Missouri. I've never seen one, let alone shot one.

The duration of the season varies according to the number of blue-winged teal counted in annual population surveys. In recent years, the number of blue-wings has justified the maximum, 16-day season. Bag limits can change from year to year, too, so you will want to check the 2015 *Migratory Bird Hunting Digest* for this year's regulations.

Teal tend to migrate in fast-moving waves, so timing is critical to hunting success. A 10-degree drop in temperature in the upper Midwest can spur the movement of large numbers of teal south into Missouri overnight, creating an amazing spectacle as flocks of 50 or more blue- and green-winged teal buzz around

Book Sales Support Waterfowl Conservation

Discover the unique history of the "Missouri Model" of wetland and waterfowl management and support related programs by purchasing *Waterfowl Hunting and Wetland Conservation in Missouri — A Model of Collaboration*. This large-format, richly illustrated book is a must-have for all serious migratory bird hunters, and all proceeds from sales of the book will be dedicated to wetland and waterfowl conservation that benefits Missouri. The book's authors, many of them former waterfowl biologists and wetland managers, donated their services to produce the book. Sponsors, anchored by Bass Pro Shops, the Missouri Department of Conservation, Ducks Unlimited, the Conservation Federation of Missouri, the Missouri Conservation Heritage Foundation, and private citizens, have covered all production costs. The book is available for purchase through the Nature Shop at mdcnatureshop.com.



wetlands and up and down major rivers. The next day, the sky can be empty of teal.

Don't be surprised or daunted if it takes you several years to hit it just right. Even obsessive teal chasers sometimes find themselves out of



Set out decoys in two groups about 50 feet apart near the water's edge to create a pocket of empty water where teal can land.

synch with fleeting migratory spurts. In years when the main event occurs after the early teal season, I sometimes go to the marsh just to watch the birds and thrill at maneuvers that put the Blue Angels to six kinds of shame.

The period of maximum teal movement usually occurs between dawn and 8 a.m., so it's important to be in place at sunrise, which is the start of legal shooting time. But don't quit if the action slows down momentarily. During big migration events, you might see flocks arriving off and on throughout the day.

Where

Teal prefer shallow water. The managed wetland areas listed at mdc.mo.gov/node/3721 usually provide teal habitat in early to mid-September. Big rivers also are teal magnets when water levels are low enough to expose sand bars surrounded by 6 to 18 inches of slack water. These open settings provide ample room for the fast, sweeping flight that makes teal so much fun to watch and hunt. They seem to glory in showing off their ability to cover huge distances in nothing flat.

Smaller waters, such as shallow ponds and sheet water standing in crop fields after a rain, also can attract teal. Medium-sized impoundments on conservation areas often are undiscovered teal honey holes. Shallow water is the key. Lakes with steep banks and quick drop-offs hold no charm for teal.

Teal on the Table

On Oct. 14, 1805, as the Corps of Discovery began its descent of the Columbia River, Capt. William Clark shot some blue-winged teal and wrote in his journal, "for the first time for three weeks past I had a good dinner of Blue winged Teel." The old saying that hunger is the best condiment might have been partly responsible for Clark's enthusiasm. However, I can vouch for the culinary value of "teel." Their meat is some of the best wild game, rich but with a milder flavor and more tender than larger ducks. I think it is at its best when rubbed inside and out with olive oil and salt and roasted over hardwood coals just until the breast skin is brown and the juices run clear. This is easily done over a campfire with a green sassafras stick as a skewer.

JIM LOW

Decoys

Teal are the least wary of ducks. Show them a dozen decoys of any description, and they are sure to buzz you once or twice. Just as likely, they will zip in and land before you can blink.

A dozen green-wing teal decoys fit nicely in a small backpack. Set these out in two groups about 50 feet apart near the water's edge to create a pocket of empty water where teal can land. Then hunker down in whatever vegetation is available and look sharp!

Resist the temptation to shoot at flocks on their initial passes. Teal often make several circuits of available water before settling down. If you sit very still during this process, chances are good that they will eventually try to land right in front of you. Teal don't know how to fly slowly, but they might take 5 or 10 mph off their usual pace when zeroing in on a landing spot, offering passing shots that are slightly easier.

Later in the day, birds that found other spots to land will occasionally move around in singles and pairs, looking for greener pastures. These birds sometimes loaf past at normal duck speed, skimming the water's surface as they check out your decoys.

Guns & Ammo

Teal are faster than doves and almost as agile as dragonflies. A light, fast-handling 20-gauge, double-barreled shotgun is ideally suited to this unique wing-shooting challenge. Pumps and autoloaders are okay, but you will seldom get to use that third shot.

Nontoxic shot is required for teal hunting. Blue-wings are less than half the size of big, late-season mallards, and green-wings aren't much bigger than pigeons. Consequently No. 4 or 6 steel shot is plenty big. Heavy loads are a waste of money for teal. Furthermore, they are unnecessarily punishing when fired from light guns and without the padding provided by a heavy hunting coat.

Drawing a bead on a swooping, dodging green-wing is almost impossibly difficult. If you ordinarily spend two or three shells per bird when dove hunting, bring three or four shells per bird for teal. If you come closer to the national average of five shells per dove, you might need a couple of boxes for a limit of teal. ▲



Other Essentials

- » Hunters 16 and older need a Missouri Migratory Bird Hunting Permit and a Federal Duck Stamp to hunt teal. Hunters under age 16 must hunt in the immediate presence of a properly permitted adult hunter or have in their possession a valid hunter education card.
- » Hip waders are usually adequate for early teal season, with its shallow water and warm weather.
- » A camouflage net face mask minimizes the risk that teal will see you.
- » You can buy calls for both blue-winged and green-winged teal. I don't think teal pay much attention to them, but calling gives you something to do while waiting.
- » A stool or marsh seat eases the strain of squatting in low vegetation.
- » DEET-based mosquito repellent is indispensable for early teal season.
- » A retriever isn't absolutely necessary, but a good dog will tip you off to approaching flocks and make finding downed birds a thousand times easier.

Since his retirement in January, **Jim Low** has been exploring conservation areas that eluded him during his 24 years as a writer for the Department. He is thrilled to be able to continue writing for Missouri Conservationist readers.

Bristly Sunflower

I HEADED OUT for Mora Conservation Area, south of Sedalia in Benton County, during a classic Missouri summer rainstorm. Some friends planned to meet me for a photography walk and prairie tour but cancelled due to the weather. I was on my own. I loaded my gear in the pre-dawn downpour and headed out as lightning illuminated my way.

I pulled up to a road ditch at the edge of the prairie and saw a man-made owl's nest on a pole. It was in the middle of a large field of native flowers and bluestem grasses. I decided to stop as it might provide a good photo if an owl made an appearance.

The intense storm eased to a gentle drizzle as darkness turned to gray dawn. A break in the cloudbank on the eastern horizon formed just as the first rays of sunlight streaked across the landscape and a brilliant rainbow appeared. A large patch of bristly sunflowers began to glow in the gentle reflected illumination of the rain clouds overhead. This all happened so quickly that I nearly tripped over the legs of my tripod as I scrambled across the road ditch to frame the storm clouds, rainbow, and wildflowers in a pleasing composition. A low-angle approach seemed best. I sat on the ground with the closest blooms just inches from my lens as I shielded it from the gentle shower.

Bristly sunflowers (*Helianthus hirsutus*) are frequently found along roadsides, prairies, and woodlands around the state. They are a member of the daisy family and grow up to 4 feet tall. The showy flowers bloom from July to October, and they grow well in poor, rocky soil. The yellow blooms of the bristly sunflower are often confused with the many other types of sunflowers. They do share similar characteristics as members of the same family of Asteraceae, but they are not the same plant.

The whole sunrise-clearing-storm-rainbow event lasted only a few minutes before the clouds churned back and turned to a solid steel gray obscuring the sun. I try to remind myself that it is not always a blue-sky day in Missouri, and sometimes a little adverse weather can lend drama and interest to ordinary photos. The old idiom "nothing ventured, nothing gained" held true that morning.

—Story and photograph by David Stonner

 16–35mm lens • f/5.6 • 1/50 sec • ISO 640

We help people discover nature through our online field guide. Visit mdc.mo.gov/node/73 to learn more about Missouri's plants and animals.





LaBarque Creek Conservation Area

Just a 45-minute drive from downtown St. Louis, this Jefferson County area contains some of the highest quality woodland, glade, and sandstone cliff natural communities in the region.

LABARQUE CREEK ENCOMPASSES 1,270 acres of the upper LaBarque Creek watershed, one of the most pristine and diverse watersheds within the Meramec River basin. The Department acquired the area through several land acquisitions that began in 2007. The area shares a portion of its southern boundary with Don Robinson State Park, a new park currently under development. A 3-mile hiking trail loop on the area wanders along LaBarque Creek, travels through woodland ridgetops and along open glades and shaded forests, crossing a portion of the state-designated natural area. Visitors can access the trail at a public parking lot located at the northern tip of the area.

LaBarque Creek's landscape, fish, and wildlife are very diverse, so there are many things to discover. You may see Fremont's leather flower emerging atop a dolomite glade, red-backed salamanders hiding in the moist duff beneath a downed tree, or sphagnum moss and ferns clinging to the shaded walls of a wet sandstone cliff. The area supports more than 584 species of seed-bearing plants, 115 species of bryophytes (mosses, liverworts, and hornworts), 49 breeding bird species, and over 53 species of fish. In fact, fish diversity is almost three times greater than that of nearly all other Meramec River tributaries. The unique geological features of the area can be admired year-round — waterfalls among the sandstone box canyons and rock shelters in the rainy months give way to large ice flows in the winter.



Fremont's leather flower

60mm lens • f/6 • 1/160 sec • ISO 200 | by Jim Rathert

Current management efforts focus on restoring the sandstone and dolomite woodlands and glades that have become overgrown with fire-intolerant tree species (sugar maple, ironwood, and Eastern red cedar) over the last century due to the absence of natural disturbances such as fire. Woodland thinning is a management tool that is currently used to remove many of these tree species as well as some oaks that have become overstocked. Visitors may see large areas of downed trees on the area, but these areas provide important habitat for various wildlife. Increased acorn production in the large standing oaks provide forage for many animals. Integrating prescribed fire with tree thinning also helps stimulate the habitat for more woodland-characteristic species like silky aster, Missouri black-eyed Susan, purple prairie clover, and chinkapin oak.

—Raenhard Wesselschmidt, area manager



LaBarque Creek Conservation Area

Recreation Opportunities: Hiking, wildlife and nature viewing, hunting

Unique Features: Ozark stream, sandstone and dolomite glades, sandstone cliffs and canyons, quality woodlands and forests, 3-mile scenic hiking trail

For More Information: Call 636-441-4554 or visit mdc.mo.gov/a200608



MDC DISCOVER nature

To find more events near you, call your regional office (phone numbers on Page 3), or visit mdc.mo.gov and choose your region.

REPTILES OF MARAIS TEMPS CLAIR CONSERVATION AREA

AUG. 1 • SATURDAY • 8–11 A.M.

*St. Louis Region, Marais Temps Clair
Conservation Area, 5134 Island Road,
St. Charles, MO 63301*

*Registration required, call 636-441-4554
All ages*

Summer mornings are perfect for seeing reptiles basking in the sun in their native habitat. Several species can usually be seen during a summer hike at Marais Temps Clair Conservation Area, and we invite you to join us for a 2.5-mile hike on the levees to view exciting native wildlife of eastern St. Charles County. Learn the identifying characteristics of the native turtles and snakes while viewing them up close and through provided spotting scopes. Moderate 2.5-mile hike on level terrain.

NATURE NUTS

AUG. 8 • SATURDAY • 10–11:30 A.M.

*Ozark Region, Twin Pines Conservation
Education Center, RT 1 Box 1998,
Winona, MO 65588*

*Registration required, call 573-325-1381
Ages 7–12, families*

Come learn about Missouri's native birds and how to build a birdhouse for your backyard. Everyone takes home a birdhouse.

WET AND WILD

AUG. 15 • SATURDAY • 10 A.M. – 2:30 P.M.

*Kansas City Region, Discovery Center,
4750 Troost Ave., Kansas City, MO 64110
No registration required, 816-759-7300*

All ages

Streams, lakes, wetlands, and swamps are a few of the aquatic ecosystems you can explore in Missouri. Dive into this wet and wild world by identifying water bugs, getting up close with aquatic wildlife, and more hands-on activities. If you want to discover the wild side of Missouri's aquatic ecosystems, then this program is for you.

LITTLE STINKERS STORYTIME

AUG. 20 • THURSDAY • 9:30–10:30 A.M.

*Ozark Region, Twin Pines Conservation
Education Center, RT 1 Box 1998,
Winona, MO 65588*

*Registration required, call 573-325-1381
Pre-K and under*

Join one of our naturalists for a special storytime that's all about Missouri's turtles. A game, song, and craft making will follow the story.

Red-eared slider

6

IDEAS FOR FAMILY FUN

DISCOVER NATURE — DOVE HUNTING CLINIC

AUG. 29 • SATURDAY • 8:30 A.M. – 2:00 P.M.

*Southwest Region, Andy Dalton Shooting
Range and Outdoor Education Center,
4895 N. Farm Road 61, Ash Grove, MO 65604
Registration required, call 417-742-4361
All ages, families*

Join us to learn the most effective methods of dove hunting. We will discuss the biology of the bird and teach you how to wingshoot using techniques from Effective Wingshooting for the Hunter. We will discuss using decoys and how to use concealment to your benefit.

YOUTH DOVE HUNT AND CLINIC

AUG. 29 • SATURDAY • 1–5 P.M.

SEPT. 1 • TUESDAY • 3 P.M. – SUNSET

*Central Region, Whetstone Creek
Conservation Area, 3215 County Road 1003,
Williamsburg, MO 63388*

*Registration required by Aug. 26, limited to
the first 25 participants, call 573-254-3330
Ages 8–15, accompanied by a parent or
adult mentor*

Join department staff for an exciting and educational dove hunting experience. Participants will learn the basics of dove hunting safety, firearms safety, and shooting skills. This program will consist of two

sessions: a mandatory dove clinic from 1–5 p.m. Saturday, Aug. 29 and a hunt Tuesday, Sept. 1 from 3 p.m. – sunset. Youth must be hunter education certified or

accompanied by a hunter education certified adult.





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I Am Conservation

Bill T. Crawford, a retired employee of the Missouri Department of Conservation, poses outside of his Columbia home. Crawford, who turns 97 this month, has been involved in conservation since the beginning. He was present at the 1935 meeting that established Missouri's apolitical conservation program. "My dad was a hunter and fisherman and very much involved in conservation, and I just went with him everywhere," Crawford said. He was a high school student when he accompanied his dad to the meeting that eventually resulted in the creation of the agency where he would begin working in 1941. "When the Department was created, there were very few facts about anything," Crawford said. To learn more, the Department — and Crawford — embarked on widespread landmark studies to get better information about Missouri's wildlife populations and the habitats on which they relied. "The Department had a big job on its hands to figure out what we had in Missouri and how it was being affected by land use and people," Crawford said. Later, more species-specific studies grew out of those earlier studies. "In the 1950s, they finally decided to create a dedicated research staff," Crawford said, who was put in charge of that unit, serving as wildlife research chief until his retirement in 1983. Crawford is credited with creating the Missouri natural areas program, and he cofounded the Missouri Prairie Foundation in 1966 as a citizen-led organization dedicated to protecting grassland habitat and wildlife. Crawford was named Master Conservationist in 2011 for his lasting contributions to conservation. —*photograph by Noppadol Paothong*